

SEQUENCE LISTING



<110> COX, Vivienne, Frances  
SMITH, Richard, Anthony, Godwin  
ROWLING, Pamela, Jane, Elizabeth

<120> NON-IDENTICAL GENES AND THEIR APPLICATION IN IMPROVED MOLECULAR  
ADJUVANTS

<130> 37945-0008

<140> US 09/582,761

<141> 2000-08-28

<150> PCT/GB98/03918

<151> 1998-12-30

<150> GB 9727512.7

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<170> PatentIn version 3.0

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Gly Met Thr Pro Thr Val Ile Ala Val His Tyr Leu Asp Gln Thr Glu  
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Gln Trp Glu Lys Phe Gly Ile Glu Lys Arg Gln Glu Ala Leu Glu Leu  
35 40 45  
Ile Lys Lys Gly Tyr Thr Gln Gln Leu Ala Phe Lys Gln Pro Ser Ser  
50 55 60  
Ala Tyr Ala Ala Phe Asn Asn Arg Pro Pro Ser Thr Trp Leu Thr Ala  
65 70 75 80  
Tyr Val Val Lys Val Phe Ser Leu Ala Ala Gln Leu Ile Ala Ile Asp  
85 90 95  
Ser His Val Leu Cys Gly Ala Val Lys Trp Leu Ile Leu Glu Lys Gln  
100 105 110  
Lys Pro Asp Gly Val Phe Gln Glu Asp Gly Pro Val Ile His Gln Glu  
115 120 125

Met Ile Gly Gly Phe Arg Asn Ala Lys Glu Ala Asp Val Ser Leu Thr  
130 135 140

Ala Phe Val Leu Ile Ala Leu Gln Glu Ala Arg Asp Ile Cys Glu Gly  
145 150 155 160

Gln Val Asn Ser Leu Pro Gly Ser Ile Asn Lys Ala Gly Glu Tyr Ile  
165 170 175

Glu Ala Ser Tyr Met Asn Leu Gln Arg Pro Tyr Thr Val Ala Ile Ala  
180 185 190

Gly Tyr Ala Leu Ala Leu Met Asn Lys Leu Glu Glu Pro Tyr Leu Gly  
195 200 205

Lys Phe Leu Asn Thr Ala Lys Asp Arg Asn Arg Trp Glu Glu Pro Asp  
210 215 220

Gln Gln Leu Tyr Asn Val Glu Ala Thr Ser Tyr Ala Leu Leu Ala Leu  
225 230 235 240

Leu Leu Leu Lys Asp Phe Asp Ser Val Pro Pro Val Val Arg Trp Leu  
245 250 255

Asn Glu Gln Arg Tyr Tyr Gly Gly Gly Tyr Gly Ser Thr Gln Ala Thr  
260 265 270

Phe Met Val Phe Gln Ala Leu Ala Gln Tyr Gln Thr Asp Val Pro Asp  
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His Asp Leu Asn Met Asp Val Ser Phe His Leu Pro Ser Ser Gly Ser  
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35 40 45

Ile Lys Lys Gly Tyr Thr Gln Gln Leu Ala Phe Lys Gln Pro Ser Ser  
50 55 60

Ala Tyr Ala Ala Phe Asn Asn Arg Pro Pro Ser Thr Trp Leu Thr Ala  
65 70 75 80

Tyr Val Val Lys Val Phe Ser Leu Ala Ala Gln Leu Ile Ala Ile Asp  
 85 90 95  
 Ser His Val Leu Cys Gly Ala Val Lys Trp Leu Ile Leu Glu Lys Gln  
 100 105 110  
 Lys Pro Asp Gly Val Phe Gln Glu Asp Gly Pro Val Ile His Gln Glu  
 115 120 125  
 Met Ile Gly Gly Phe Arg Asn Ala Lys Glu Ala Asp Val Ser Leu Thr  
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 Ala Phe Val Leu Ile Ala Leu Gln Glu Ala Arg Asp Ile Cys Glu Gly  
 145 150 155 160  
 Gln Val Asn Ser Leu Pro Gly Ser Ile Asn Lys Ala Gly Glu Tyr Ile  
 165 170 175  
 Glu Ala Ser Tyr Met Asn Leu Gln Arg Pro Tyr Thr Val Ala Ile Ala  
 180 185 190  
 Gly Tyr Ala Leu Ala Leu Met Asn Lys Leu Glu Glu Pro Tyr Leu Gly  
 195 200 205  
 Lys Phe Leu Asn Thr Ala Lys Asp Arg Asn Arg Trp Glu Glu Pro Asp  
 210 215 220  
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 Asn Glu Gln Arg Tyr Tyr Gly Gly Gly Tyr Gly Ser Thr Gln Ala Thr  
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 275 280 285  
 His Asp Leu Asn Met Asp Val Ser Phe His Leu Pro Ser Ser Gly Ser  
 290 295 300  
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ser Thr Pro Ala Gly  
 305 310 315 320  
 Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile Ala Val  
 325 330 335  
 His Tyr Leu Asp Gln Thr Glu Gln Trp Glu Lys Phe Gly Ile Glu Lys  
 340 345 350  
 Arg Gln Glu Ala Leu Glu Leu Ile Lys Lys Gly Tyr Thr Gln Gln Leu  
 355 360 365  
 Ala Phe Lys Gln Pro Ser Ser Ala Tyr Ala Ala Phe Asn Asn Arg Pro  
 370 375 380  
 Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val Phe Ser Leu Ala  
 385 390 395 400

Ala	Gln	Leu	Ile	Ala	Ile	Asp	Ser	His	Val	Leu	Cys	Gly	Ala	Val	Lys	405	410	415	
Trp	Leu	Ile	Leu	Glu	Lys	Gln	Lys	Pro	Asp	Gly	Val	Phe	Gln	Glu	Asp	420	425	430	
Gly	Pro	Val	Ile	His	Gln	Glu	Met	Ile	Gly	Gly	Phe	Arg	Asn	Ala	Lys	435	440	445	
Glu	Ala	Asp	Val	Ser	Leu	Thr	Ala	Phe	Val	Leu	Ile	Ala	Leu	Gln	Glu	450	455	460	
Ala	Arg	Asp	Ile	Cys	Glu	Gly	Gln	Val	Asn	Ser	Leu	Pro	Gly	Ser	Ile	465	470	475	480
Asn	Lys	Ala	Gly	Glu	Tyr	Ile	Glu	Ala	Ser	Tyr	Met	Asn	Leu	Gln	Arg	485	490	495	
Pro	Tyr	Thr	Val	Ala	Ile	Ala	Gly	Tyr	Ala	Leu	Ala	Leu	Met	Asn	Lys	500	505	510	
Leu	Glu	Glu	Pro	Tyr	Leu	Gly	Lys	Phe	Leu	Asn	Thr	Ala	Lys	Asp	Arg	515	520	525	
Asn	Arg	Trp	Glu	Glu	Pro	Asp	Gln	Gln	Leu	Tyr	Asn	Val	Glu	Ala	Thr	530	535	540	
Ser	Tyr	Ala	Leu	Leu	Ala	Leu	Leu	Leu	Leu	Lys	Asp	Phe	Asp	Ser	Val	545	550	555	560
Pro	Pro	Val	Val	Arg	Trp	Leu	Asn	Glu	Gln	Arg	Tyr	Tyr	Gly	Gly	Gly	565	570	575	
Tyr	Gly	Ser	Thr	Gln	Ala	Thr	Phe	Met	Val	Phe	Gln	Ala	Leu	Ala	Gln	580	585	590	
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His	Leu	Pro	Ser	Ser	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	610	615	620	
Ser	Gly	Ser	Thr	Pro	Ala	Gly	Ser	Gly	Glu	Gln	Asn	Met	Ile	Gly	Met	625	630	635	640
Thr	Pro	Thr	Val	Ile	Ala	Val	His	Tyr	Leu	Asp	Gln	Thr	Glu	Gln	Trp	645	650	655	
Glu	Lys	Phe	Gly	Ile	Glu	Lys	Arg	Gln	Glu	Ala	Leu	Glu	Leu	Ile	Lys	660	665	670	
Lys	Gly	Tyr	Thr	Gln	Gln	Leu	Ala	Phe	Lys	Gln	Pro	Ser	Ser	Ala	Tyr	675	680	685	
Ala	Ala	Phe	Asn	Asn	Arg	Pro	Pro	Ser	Thr	Trp	Leu	Thr	Ala	Tyr	Val	690	695	700	
Val	Lys	Val	Phe	Ser	Leu	Ala	Ala	Gln	Leu	Ile	Ala	Ile	Asp	Ser	His	705	710	715	720



Val Leu Cys Gly Ala Val Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro  
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 Asp Gly Val Phe Gln Glu Asp Gly Pro Val Ile His Gln Glu Met Ile  
 740 745 750  
 Gly Gly Phe Arg Asn Ala Lys Glu Ala Asp Val Ser Leu Thr Ala Phe  
 755 760 765  
 Val Leu Ile Ala Leu Gln Glu Ala Arg Asp Ile Cys Glu Gly Gln Val  
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 Ser Tyr Met Asn Leu Gln Arg Pro Tyr Thr Val Ala Ile Ala Gly Tyr  
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 Ala Leu Ala Leu Met Asn Lys Leu Glu Glu Pro Tyr Leu Gly Lys Phe  
 820 825 830  
 Leu Asn Thr Ala Lys Asp Arg Asn Arg Trp Glu Glu Pro Asp Gln Gln  
 835 840 845  
 Leu Tyr Asn Val Glu Ala Thr Ser Tyr Ala Leu Leu Ala Leu Leu Leu  
 850 855 860  
 Leu Lys Asp Phe Asp Ser Val Pro Pro Val Val Arg Trp Leu Asn Glu  
 865 870 875 880  
 Gln Arg Tyr Tyr Gly Gly Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met  
 885 890 895  
 Val Phe Gln Ala Leu Ala Gln Tyr Gln Thr Asp Val Pro Asp His Asp  
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11

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 <212> DNA  
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 pBP-06

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<210> 35  
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32

<210> 36  
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 <212> DNA  
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32

<210> 37  
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<220>  
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Trp Ala Pro Ala Pro Thr Arg Ala Gly Ser Arg Ser Thr Pro Ala Gly  
 20 25 30

Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile Ala Val  
 35 40 45

His Tyr Leu Asp Gln Thr Glu Gln Trp Glu Lys Phe Gly Ile Glu Lys  
 50 55 60

Arg Gln Glu Ala Leu Glu Leu Ile Lys Lys Gly Tyr Thr Gln Gln Leu  
 65 70 75 80

Ala Phe Lys Gln Pro Ser Ser Ala Tyr Ala Ala Phe Asn Asn Arg Pro  
 85 90 95

Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val Phe Ser Leu Ala  
 100 105 110

Ala Gln Leu Ile Ala Ile Asp Ser His Val Leu Cys Gly Ala Val Lys  
 115 120 125

Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val Phe Gln Glu Asp  
 130 135 140

Gly	Pro	Val	Ile	His	Gln	Glu	Met	Ile	Gly	Gly	Phe	Arg	Asn	Ala	Lys	145	150	155	160
Glu	Ala	Asp	Val	Ser	Leu	Thr	Ala	Phe	Val	Leu	Ile	Ala	Leu	Gln	Glu	165	170	175	
Ala	Arg	Asp	Ile	Cys	Glu	Gly	Gln	Val	Asn	Ser	Leu	Pro	Gly	Ser	Ile	180	185	190	
Asn	Lys	Ala	Gly	Glu	Tyr	Ile	Glu	Ala	Ser	Tyr	Met	Asn	Leu	Gln	Arg	195	200	205	
Pro	Tyr	Thr	Val	Ala	Ile	Ala	Gly	Tyr	Ala	Leu	Ala	Leu	Met	Asn	Lys	210	215	220	
Leu	Glu	Glu	Pro	Tyr	Leu	Gly	Lys	Phe	Leu	Asn	Thr	Ala	Lys	Asp	Arg	225	230	235	240
Asn	Arg	Trp	Glu	Glu	Pro	Asp	Gln	Gln	Leu	Tyr	Asn	Val	Glu	Ala	Thr	245	250	255	
Ser	Tyr	Ala	Leu	Leu	Ala	Leu	Leu	Leu	Leu	Lys	Asp	Phe	Asp	Ser	Val	260	265	270	
Pro	Pro	Val	Val	Arg	Trp	Leu	Asn	Glu	Gln	Arg	Tyr	Tyr	Gly	Gly	Gly	275	280	285	
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Tyr	Gln	Thr	Asp	Val	Pro	Asp	His	Asp	Leu	Asn	Met	Asp	Val	Ser	Phe	305	310	315	320
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36

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